

Paper- 13 : MANAGEMENT ACCOUNTING – STRATEGIC MANAGEMENT

Time Allowed : 3 Hours

Full Marks : 100

The figures in the margin on the right side indicate full marks.
Answer Question No.1 and any other two more from the rest in this section.
(Please answer all part of the question at one place.)

**Section -I (60 Marks)
(Strategic Management)**

Question 1.

(a) In each of the cases/ statements given below, one of four alternatives is most appropriate. Indicate the correct answer: [1×10]

- (i) The acquisition of Corus by TISCO is an example of:
 - (A) Horizontal integration;
 - (B) Vertical integration;
 - (C) Concentric diversion;
 - (D) Forward integration;

- (ii) Which one of the following is not a measure related to Balanced Score Card?
 - (A) Financial;
 - (B) Customer satisfaction;
 - (C) Internal processes;
 - (D) Gap Analysis.

- (iii) The corporate governance framework should ensure:
 - (A) Equitable treatment of all shareholders;
 - (B) Rights of stakeholders as established by law;
 - (C) Timely and accurate disclosure of all material matters including finance, performance and ownership of the company;
 - (D) All of the above and social responsibility.

- (iv) The competitive advantage through market share approach is derived from:
 - (A) Economies of scale;
 - (B) Experience;
 - (C) Market power;
 - (D) All of the above.

- (v) The Product Market Matrix comprising of Strategies of Penetration, Market development, Product development and Diversification was first formulated by:
 - (A) Ansoff;
 - (B) Drucker;
 - (C) Porter;
 - (D) Andrews.

- (vi) Value analysis aims at:
 - (A) Increasing sales by economizing expenditure and increasing productivity;
 - (B) Reducing cost by economizing expenditure and increasing productivity;

Answer to PTP_Final_Syllabus 2008_Dec2014_Set 2

- (C) Reducing profit by increasing expenditure and increasing productivity;
(D) Reducing cost by economizing expenditure and increasing manpower.
- (vii) Outsourcing is the —
(A) Spinning of a value-creating activity to create a new firm;
(B) Selling of a value-creating activity to other firms;
(C) Purchases of a value-creating activity from external supplier;
(D) Use of competitors to obtain value-creating data from the internet.
- (viii) Which in the following is not there in support activities of a value chain analysis?
(A) Firm infrastructure;
(B) Marketing and sales;
(C) HRM;
(D) Technology Development.
- (ix) Bata Shoe Company's pricing of products like ₹ 79.95, ₹ 289.95 etc. is called —
(A) Leader Pricing;
(B) Unit Pricing;
(C) Price Lining;
(D) Psychological Pricing –Odd Pricing.
- (x) Sony's distinctive capacity is —
(A) Distribution;
(B) Innovation;
(C) Service;
(D) Sales and marketing.

Answer:

- (i) (A) Horizontal integration
(ii) (D) Gap Analysis
(iii) (D) All of the above and social responsibility.
(iv) (D) All of the above
(v) (A) Ansoff
(vi) (B) Reducing cost by economizing expenditure and increasing productivity
(vii) (C) Purchases of a value-creating activity from external supplier
(viii) (B) Marketing and sales
(ix) (D) Psychological Pricing –Odd Pricing
(x) (B) Innovation.

(b) Define the following terms (in not more than two sentences):

[1x5]

- (i) **Kanban Card**
(ii) **Strategic intent**
(iii) **Market segmentation**
(iv) **Market Information System**
(v) **Grand strategy.**

Answer:

Answer to PTP_Final_Syllabus 2008_Dec2014_Set 2

- (i) **Kanban Card:** It is a notification card that a downstream machine sends to each upstream machine that feeds it with parts, authorising the production of just enough components to fulfill the production requirements. This is also known as "pull" system.
- (ii) **Strategic intent:** It is demonstrated when a company relentlessly or aggressively pursues an ambitious strategic objective and concentrates its full resources and competitive actions on achieving that objectives.
- (iii) **Market segmentation:** It is the division of market into fairly homogenous subsets, where each subset can be chosen, reached and served by its own tailored marketing mix.
- (iv) **Market Information System:** It is an information system used in gathering, analyzing and disseminating information about price and other information relevant to product.
- (v) **Grand strategy:** The comprehensive, general plan of major actions or a statement of means indicating how the objectives are to be achieved or a master strategy intended to guide the acquisition and allocation of resources over an extended period of time.

(c) State whether the following statements are 'True' or 'False' with justification for your answer.

[1x5]

- (i) **Crown jewel tactics is strategic tactics of joint venture.**
- (ii) **In BCG matrix, Question marks are products in a low-growth market, but where they have a high market share.**
- (iii) **'Forward Integration' means in-house production of critical inputs for the main business.**
- (iv) **'Management buy-in' refers to the purchase of all or part of a business firm from its owners by the managers.**
- (v) **Competitive Benchmarking involves the comparison of competitors products, process and business results with own.**

Answer:

- (i) False: Crown jewel tactics is strategic tactics of hostile takeover.
- (ii) False: Question marks are products in a high-growth market, but where they have a low market share.
- (iii) False: Backward Integration means in-house production of critical inputs for the main business.
- (iv) False: Management buy-in occurs when a manager or a management team from outside the company raises the necessary fund, buys it, and becomes the company's new management.
- (v) True: Competitive Benchmarking involves the comparison of competitors products, process and business results with own. Benchmarking partners are drawn from the same sector.

Question 2.

(a) Discuss in brief the elements of a meaningful mission statement of a corporate organization.

[5]

Answer:

The major elements of an effective corporate mission statement are:

Answer to PTP_Final_Syllabus 2008_Dec2014_Set 2

- (i) Clearly articulated: The mission statement should be succinct and easy to understand so that the values, purposes and goals of the organization are clear to everybody in the organization and will serve as a guide to them.
- (ii) Relevant: A mission statement should be appropriate to the organization in terms of its history, culture and shared values.
- (iii) Current: A mission statement may become obsolete after some time. As such it should be reviewed and updated on a regular basis taking into consideration the changes in environmental and organizational factors.
- (iv) Written in a positive tone: A mission statement should be capable of inspiring and encouraging commitment towards fulfilling the mission.
- (v) Unique: An organization's mission statement should be established individually, if not uniqueness, of the company.
- (vi) Enduring: A mission statement should continually guide and inspire and be challenged in the pursuit of the mission of the organization, never achieving the ultimate goal.
- (vii) Acceptable to the target audience: Ideally, the mission statement should define the customers, product/services, markets, technology, philosophy and self-concept.

(b) Critics of Nike often complain that its shoes cost almost nothing to make, yet cost the consumer so much. Identify the strategic marketing planning steps which provide value that add to Nike's offering and result in the high price of Nike's shoes. [5]

Answer:

The strategic marketing planning steps which provide value that add to Nike's offering and result in the high price of Nike's shoes are:

- (i) Conduct a situation analysis
- (ii) Determine marketing objectives
- (iii) Selecting target market and measuring demand
- (iv) Designing strategic marketing mix, and
- (v) Prepare annual marketing plan.

(c) Write a short note on 'Sensitivity Analysis'. [5]

Answer:

The "Sensitivity Analysis (SA)" is the study of how the uncertainty in the output of a model (numerical or otherwise) can be apportioned to different sources of uncertainty in the model input. A related practice is uncertainty analysis which focuses rather on quantifying uncertainty in model output.

Ideally, uncertainty and sensitivity analysis should be run in tandem.

In more general terms uncertainty and sensitivity analysis investigate the robustness of a study when the study includes some form of statistical modelling. Sensitivity analysis can be useful to computer modellers for a range of purposes including:

Answer to PTP_Final_Syllabus 2008_Dec2014_Set 2

- (i) Support decision making or the development of recommendations for decision makers (e.g. testing the robustness of a result);
- (ii) Enhancing communication from modellers to decision makers (e.g. by making recommendations more credible, understandable, compelling or persuasive);
- (iii) Increase understanding or quantification of the system (e.g. understanding relationships between input and output variables); and
- (iv) Model development (e.g. searching for errors in the model).

(d) "In the maturity stage of Product Life Cycle (PLC) the market becomes saturated, price competition intensifies and the rate of sales growth slows down." Suggest five strategic choices in such a stage of PLC. [5]

Answer:

In order to face the situations characterized by the maturity stage of PLC, alternative marketing and distribution strategies listed below are suggested:

- (i) Brand-stressing advertising:
 - More attractive design and functional packaging
 - More after-sales services
 - Heavier point of sale effort, and
 - Increase in sales promotion expenditure to hold customer loyalty
- (ii) Trading down through:
 - Introduction of low price models of an established product
 - Price-cutting of an entire product line and keeping prices close to private levels, and
 - Entering a 'fighting brand' on the market at lower price to avoid killing of an established premium brand
- (iii) Trading up (strategy opposite to item 2) through:
 - Improvement of quality / appearances
 - Use of prestige packaging
 - Price increase to cream market levels (in order to increase market penetration earns more margins on possibly lower sales/keep greater differentiation over competitive products)
- (iv) Proliferation, exclusive or radical, by
 - More designs
 - More exclusive and innovative features
 - Creating radical/distinct package designs, and
 - More options
- (v) Increase of product availability and point-of-sale services through more distribution outlets/ dealers/ services centres, etc.

Question 3.

(a) "Differentiation Strategy is not possible without pitfalls." – Identify five common pitfalls. [5]

Answer:

The essences of differentiations to be unique with features that is of value to the customers. It is concerned with a company's positioning within a market or a segment in relation to the various product characteristics that influence customer choice. However, the common pitfalls are:

- (i) Over differentiating, so that price is too high relative to competitors or product quality or service levels exceed buyer's need.
- (ii) Attempting to charge too high a premium price.

Answer to PTP_Final_Syllabus 2008_Dec2014_Set 2

- (iii) Ignoring the need to signal value and depending only on intrinsic product attribute to achieve differentiation.
- (iv) Not understanding or identifying what buyers consider as value.
- (v) Trying to differentiate on the basis of something that does not lower a buyer's cost, as perceived by a buyer.

(b) What is meant by Strategic Total Cost Management? Mention the specific tools with which the Management Accountant should associate himself in the implementation of Strategic TCM in an organization. [2+5]

Answer:

This is a new world-class approach to cost management in a manufacturing enterprise which would require understanding the Total Production Management (TPM), Total Quality Management (TQM) and align the Total Cost Management (TCM) on the lines of the other two strategies. This will ensure that all the aspects of the corporate strategies are translated in term of values and control in the total cost management strategy. When Total Cost Management strategy is to be implemented, it is necessary that certain new concepts be understood.

As an important member of the strategic management team in an organization, the Management Accountant plays a very significant role in the introduction of Total Cost Management strategy which can embrace many different areas in business and as such there are specific tools to be employed for the implementation as follows:

- (i) Enterprise wide cost system: Depicts beginning to end costs starting from designing, sourcing, manufacturing and delivering a product or set of products to the customer;
- (ii) Production Cost Management: Aims at reduction of total cost of design, material management, and production by Kaizen method of optimizing each cost component;
- (iii) Marketing Cost Management: Identifies products, brands, segments and markets that augur greater growth with least incremental marketing costs;
- (iv) Support Cost Management: Aims at improving productivity and efficiency of all line functions while reducing the resources needed to provide such improvements, and
- (v) Transformation Cost Management: Identifies and drives the efforts of change management towards avenues where they will have the maximum impact on costs for reduction.

(c) According to the Profit Impact on Marketing Strategies (PIMS), list out the possible reasons for earning high returns by the companies with higher market share. Also point out the circumstances where businesses with low market share in a low growth market can earn good profits. [3+5]

Answer:

Profit Impact on Marketing Strategies (PIMS) analysis attempts to establish the profitability (i.e., return on capital) of various marketing strategies. According to it, the possible reasons for earning high returns by the companies with higher market share are:

Answer to PTP_Final_Syllabus 2008_Dec2014_Set 2

- (i) Economies of scale: It enables a market leader to produce at lower unit costs than competitors and so make bigger profits.
- (ii) Bargaining power: A strong position in the market gives a firm greater strength in its dealings with both buyers and suppliers.
- (iii) Quality of management: Market leaders often seem to be run by managers of a high calibre.

The circumstances where businesses with low market share in a low growth market can earn good profits:

- (i) The market is stable;
- (ii) Product innovations are rare;
- (iii) Most products are standardised;
- (iv) Companies produce supplies or components for industrial customers and have built up a close working relationship with these customers,
- (v) Repeat buying is frequent,
- (vi) The value added to sales ratio is high.

Question 4.

(a) What are the “key success factors” for a business enterprise? How would you determine them? Compare and contrast the different types of standards which can be used for evaluation and control of strategy? [4+3+3]

Answer:

Key variables, key success factors or critical success factors are most important for a successful strategy for a business enterprise. A typical list of such factors for a business organisation is given below:

- (i) Marketing: sales order book position, market share, gross margin or repeat order.
- (ii) Production: capacity utilisation, cost of production, timely deliveries.
- (iii) Assets management: inventory turnover, sundry debtors, ROI.
- (iv) Personnel: employee turnover, absenteeism, man-days lost in strikes, etc.

It is to be noted that the key variables for designing the system of evaluation and control differ from business (and thus organisation) to business. Also in a large multi-business organisation, they may vary from one organisation unit level to another. Knowledge of key characteristics of industry in which the business falls is imperative and useful for identifying key success factors.

Some of the key variable on the other hand will emerge from the company's functional strategies. For instance, if a company has proposed aggressive strategies, the number of new products introduced in a period will be a key success factor.

The guidelines for identifying key variables may be as under:

- Is it important in explaining the success or failure of the organisation?
- Is it volatile and can change quickly, often for reasons not controllable by the managers?
- Is it significant enough to require prompt action when a change occurs?
- Is it not easy to predict changes in key variables?
- Can the variables be measured, either directly or via a surrogate?

Answer to PTP_Final_Syllabus 2008_Dec2014_Set 2

The next important issue is to set the standards against which actual performance is to be measured. That standard of performance could be any of the following three types;

- (i) Historical standards: In this type of standards, comparison of present performance is made with the past performance.
- (ii) Industry standards: In this type of standards, the comparison of a firm's performance is made against similar other firms in the industry. The difficulty here-is that all the firms may not be exactly the same for purposes of comparison.
- (iii) Present standards: The goals/targets are decided by the firm's management to be achieved in a particular period. The present standards convey the aspiration levels and take into account environmental conditions, if properly derived. These are more realistic and also consider the organisation's capacity to achieve the same. These, however, require tremendous analysis. Absence of such analysis may lead to reverse results. However, for a company developing a conscious strategy, present standards provide the best alternative.

(b) Tata Steel's mega takeover of European steel major Corus Company is \$12.2 billion, the biggest ever for an Indian company. This is first big business transaction which marked the arrival of Indian Inc on the global stage. Which one amongst four components of growth gap can be filled by Tata Steel in this accusation? [4]

Answer:

One important objective of M&A is to fill the growth - gap, i.e. the gap between company's sales potential and its current actual performance. The four important components of growth - gap are:

- (i) Product line gap;
- (ii) Distribution gap;
- (iii) Usage gap; and
- (iv) Competitive gap.

Tata Steel has got all four components in this case. They are able to expand their products offerings, now have reach to Europe market, can have better efficiency in terms of usage of their resources and competitively stronger than before.

(c) How does 'Market Research' help a Management Accountant to gain strategic cost advantage for a firm? [6]

Answer:

Market Research helps the Management Accountant to gain strategic cost advantage for a firm in three ways:

- i) By helping understand current customer tastes and preferences in order to ensure that they continue to buy company's products or services.
- ii) Help to understand the tastes and preferences of competition customers in order to try and sell company's products and services to them.
- iii) Helping launch the new products and services effectively by understanding the potential of the market.

Answer to PTP_Final_Syllabus 2008_Dec2014_Set 2

- iv) Help to find profitable ventures' location to draw more customers. The office or store location is often a very important factor, particularly for ventures selling directly to the public.
- v) Help to gather customer experience with additional information as to how quality can be perceived and measured.
- vi) Helps in collecting technological advancement which the competitor firm follow to reduce cost effectively.

SECTION-II (40 Marks) (Risk Management)

**Answer Question No. 5 and any other two from the rest in this section.
(Please answer all parts of the question at one place.)**

Question 5.

(a) In each of the cases/statements given below, one of four alternatives is correct. Indicate the correct answer: [1x5]

- (i) ECOR in risk management means:**
 - (A) Expected Cost of Ruin;**
 - (B) Expected Cost of Opportunity Loss;**
 - (C) Economic Cost of Ruin;**
 - (D) Economic Cost of Opportunity Loss.**

- (ii) Risk management strategies are:**
 - (A) Avoid risk, Reduce risk, and Retain risk;**
 - (B) Combine risks, Transfer risk, and Share risk;**
 - (C) Hedge risk;**
 - (D) All of the above.**

- (iii) Types of risk does not include:**
 - (A) Business Risks;**
 - (B) Market Risks;**
 - (C) Interest Rate Risks;**
 - (D) Uncertainties.**

- (iv) When risk is perceived and not transferred/recognized/reduced is actually known as:**
 - (A) Risk retention;**
 - (B) Risk reduction;**
 - (C) Risk transfer;**
 - (D) Risk sharing.**

- (v) Solvency related risk measures do not include:**
 - (A) Probability of ruin;**
 - (B) Short-fall risk;**
 - (C) Value at risk;**
 - (D) Return on equity.**

Answer:

- (i) (C) Economic Cost of Ruin

Answer to PTP_Final_Syllabus 2008_Dec2014_Set 2

- (ii) (D) All of the above
- (iii) (D) Uncertainties
- (iv) (A) Risk retention
- (v) (D) Return on equity.

(b) State whether the following statements, based on the quoted terms, are 'True' or 'False' with justifications for your answer. If any statement is false, you are required to give the correct terms, duly quoted: [1x5]

- (i) Hedging involves the transfer of pure risk.**
- (ii) The condition known as moral hazard stems from an individual's mental attitude.**
- (iii) 'Future' a derivative, is used as a hedging mechanism against 'Risk'.**
- (iv) Net Single Premium (NSP) is the future value of the future death benefit.**
- (v) Probable Maximum Loss (PML) is a risk measurement and evaluation technique.**

Answer:

- (i) False: Hedging involves the transfer of a speculative risk.
- (ii) True.
- (iii) True.
- (iv) False: The Net Single Premium (NSP) can be defined as the present value of the future death benefit.
- (v) True.

Question 6.

(a) How 'hedging' helps airlines operators to protect themselves against jet fuel price hike? [4]

Answer:

Hedging involve the transfer of a speculative risk. It is a business transaction in which the risk of price fluctuation is transferred to a third party. An airline faces significant price risk from fluctuations in the price of the Jet fuel that it buys. The air lines sales airlines tickets well in advance of the date on which, it promises to transport its passengers. The price that airlines pays for the jet fuel on the day that it transports its passengers may either increase or decrease relative to the price on the date that it sells its ticket price causing either profit or loss. Therefore, on the basis of quantity of jet fuel, it expects to buy the airlines enters into equal and opposite transaction in the oil futures market, whereby speculator in effect, assumes the price risk.

The speculator agrees to take the price risk in the hope of making a profit on the total transaction. The speculator is a risk transferee and the transferor is the business person usually wishing to pass on a price risk to someone who is more willing and able to bear it. In other words, the third party opposite the transaction made by the airline may itself be a hedger.

(b) Why 'Risk-Adjusted Return on Capital' (RAROC) is mainly used by banks and insurance companies? [4]

Answer:

RAROC is a risk-adjusted framework for profitability measurement and profitability management. It is a tool for measuring risk-adjusted financial performance. And it provides a uniform view of profitability across business (Strategic Business Unit / Divisions). This approach attempts to allocate risk costs to the many different activities of the firm, such as products, projects, loans and so on. In effect, RAROC assesses much capital would be required by the organisation's

Answer to PTP_Final_Syllabus 2008_Dec2014_Set 2

various activities to keep the probability of bankruptcy below a specified probability level. RAROC is defined as the ratio of risk-adjusted return to economic capital. As a result of RAROC, managers at bank and insurance companies are forced to consider risk levels in evaluating the profitability of their decisions.

(c) How is 'Project-Risk Management' done in practice?

[5]

Answer:

In reality, the risk assessment is done through considering the various components of the financial estimates and developing certain judgemental approaches:

- (i) Estimation of revenues - revenues projected for a project need to be justified on the basis of real data available and then the projections are made conservatively. This avoids optimistic projections of income.
- (ii) Cost estimates - it always includes a margin safety to take care of impact of inflation over the time horizon for which the projections are being made. The margin of safety is computed on the basis of trend analysis of inflation over the recent past and the lead indicators that are available from fundamental analysis.
- (iii) Acceptable return on investment - this is the prime measure and as such it should be arrived at on the basis of certain consensus. It will depend on the payback period to be assumed, the industry experience and the company's norm for return on any new project on the basis of the current experience.
- (iv) Overall certain index - the critical risks of the project are identified and the certainty index of each of these risks is quantified. Then the overall certainty index is developed as an average of the critical indices already computed. For instance, raw materials availability, power availability, intensity of competition is a few of the risks, which are quantified in terms of certainty indices.
- (v) Judgment perceptions -- three different estimates of return on the investment are developed (pessimistic, most likely and optimistic) on the basis of the stage at which the particular industry is in its life cycle. On the basis of the three estimates and comparing them with the earlier methods available on certainty equivalent coefficient, a judgemental decision can be taken.

(d) Define Enterprise Risk Management.

[2]

Answer:

Enterprise Risk Management (ERM): It is the discipline by which an organization in any industry assesses control, exploits finances and monitors risks from all sources for the purpose of increasing the organization's short-term and long-term value to its stakeholders.

Question 7.

(a) Describe the types of risks which a firm may face while developing a new product/market?

[6]

Answer:

Developing a new product/market exposes a firm to a combination of four kinds of risks. These risks are particularly acute where diversification is concerned because of the simultaneous novelty of both product and market.

Answer to PTP_Final_Syllabus 2008_Dec2014_Set 2

- i) Market risk: The firm has entered in a new market where established firms already operate. The risks involved are:
1. Not correctly understanding the culture of the market or the needs of the consumer;
 2. High distribution costs due to lack of economies of scale;
 3. Failure to be seen as credible by the buyers in the market due to the lack of track record or brand;
 4. Exposure to retaliation by established firms with more entrenched position.
- ii) Product risk: the firm is involving itself in a new production process, which is already being conducted by the rival firms. The risks this poses are:
1. Higher production costs due to lack of experience;
 2. Initial quality problems or below quality products causing irreparable harm to the reputation in the market;
 3. Lack of established production infrastructure and supply-chain relations, which will make costs higher and may limit product innovation and quality.
- iii) Operational and Managerial Risk: this boils down to the danger that management will not be able to run the new business properly. This carries with it with the second danger that management will also be distracted from running the original business effectively too.
- iv) Financial risk: this relates to the share price of the business. Shareholders are generally suspicious of 'radical' (and particular diversification) for the following reasons:
1. The product and market risks lead to volatile returns;
 2. The firm may need to write off substantial new net assets if the venture fails;
 3. The investment needed will reduce dividend and/or necessitate new borrowing;
 4. A diverse and unique portfolio makes it harder to compare the firm with others in the same industry when trying to evaluate its risks and returns.

The effect will be for the share price to decline to reflect the uncertainties created by the strategy.

(b) Explain the strategies which are generally adopted to manage the corporate risks. [5]

Answer:

In the corporate risk management, the following strategies are generally adopted:

- (i) Risk Avoidance - it is strategy by which the organisation does not engage in the activity of which involves any risk.
- (ii) Risk Reduction - it is another strategy where the organisation takes two steps. One is preventing the occurrence of risk and the second one is controlling the number of occurrences. One of the possible ways of reducing the risk is going for large number.
- (iii) Risk Retention - it is the most popular method of dealing with risk. Risk retention may be conscious or unconscious. Conscious risk retention takes place when the risk is perceived and not transferred or reduced. When a risk is not recognised, it is unconsciously retained.

Answer to PTP_Final_Syllabus 2008_Dec2014_Set 2

- (iv) Risk Transfer - it is another method of managing risk. Risk can be transferred to a person willing to take it. Hedging and insurance are the best example risk transfer.
- (v) Risk Sharing - it is a process by which the potential risk is shared among many, so that the loss is not borne by a single person.

(c) Suggest how exchange rate risk is managed through asset-liability management for Indian IT firms becoming global? [4]

Answer:

Indian IT firms are becoming global by expanding their businesses to USA and Europe, their financial performance are subject to exchange rate risk. To overcome this problem, they need to have exchange rate risk management through asset-liability management. As the exchange rate fluctuates the IT firm's assets and liability not match exactly and create stress. A simple solution to correct this risk is risk management and shareholders to match assets and liability in the same currency. The risk of foreign exchange borrowing of Indian IT firms can be passed on to the lender through dollar denominators loans. The uncovered loans are hedged at the time of contracting them through forward covers to the entire amount.

Question 8.

Write short notes on the following:

[5×3]

- (a) Arbitrage Pricing Theory (APT)**
- (b) Risk mapping or profiling**
- (c) Project risk**

Answer:

- (a) Since it is unlikely that markets are inefficient for extended periods of time, financial economists began looking for alternative risk-return models, beyond the factor model such as the CAPM. In the mid-1970s, Stephen Rose developed an alternative model called the Arbitrage Pricing Theory (APT) which is reasonably intuitive, requires only limited assumptions and allows for multiple risk factors.

The APT does not require the following assumptions (which under grid the CAPM): the utility functions of investors are quadratic; security returns are normally distributed; the market portfolio that contains all risky assets is mean-variance efficient.

The APT only assumes that the capital markets are perfectly competitive and that investors always prefer more wealth to less wealth with certainty.

APT in finance, is a general theory of asset pricing that has become influential in the pricing of shares. APT holds that the expected return of a financial asset can be modeled as a linear function of various macro-economic factors or theoretical market indices, where sensitivity to changes in each factor is represented by a factor specific beta coefficient. The model derived rate of return will then be used to price the asset correctly.

- (b) Risk mapping or profiling is one of the alternative methods of risk identification and assessment in the enterprise risk management. Since integrated risk management is based on identifying all the risks facing the firm, it is not unusual for a firm to identify in excess of 100 risks when using this approach. Cataloguing and making sense of so many risks requires a

Answer to PTP_Final_Syllabus 2008_Dec2014_Set 2

structured process. Risk mapping or profiling involves arraying these risks in a matrix, with one dimension being the frequency of events and the other being the severity. Each risk is then marked to indicate whether it is covered by insurance or not. By considering the likely-hood and severity of each of the risks in this matrix, as well as the extent to which insurance protection is already available, it becomes possible for the firm to identify the risk that are most likely to seriously affect the firm's ability to achieve its goals.

- (c) The project-specific risk for an individual investment project occurs because the cash-flows from the project might be higher or lower than expected, for reasons that are specific to the project.

Type of project risk: this risk can be classified under three heads:-

- (i) Standalone Risk: This is a quantification of risk of a project when it is viewed in isolation.
- (ii) Corporate Risk: When the project is taken as a part of the corporate entity, its contribution towards the risk of the company.
- (iii) Systematic Risk: This represents the market risk of the project.

The project risk can be measured statistically by applying the following methods:-

- (i) Range, (ii) Mean absolute deviation, (iii) Standard Deviation, (iv) Co-efficient of Variance (COV) and (v) Semi-Variance.

Out of the above, Standard Deviation can be easily determined. It is widely used to measure the risk as it contains all data relating to its probability distribution.

While project risk analysis is attempted, "what-if" analysis is becomes very important to determine the inter-dependencies of the variables.

Towards this, sensitively analysis is a tool, and can be done by the following steps:

- i) Identify the relationship between basic factors like quantity sold/produced, unit selling price, project life etc. and the Net Present Value (NPV).
- ii) Compute the range of variation and acceptable value of each of the basic underlying factors, and
- iii) Interpret the effect on NPV of variations in the basic variables.